



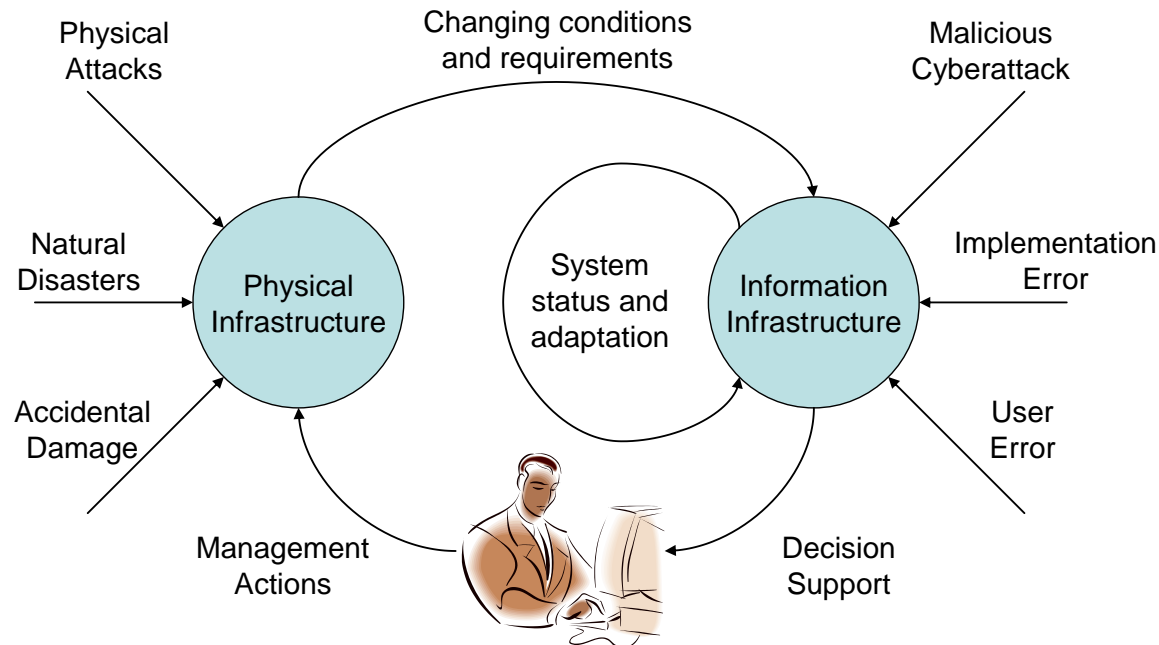
31 October 2010

Project Overview

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SERSCIS Vision



- Critical infrastructure ICT is increasingly interconnected
 - information sharing → greater operational efficiency, but also reduced slack and flexibility
 - interconnections → new risks from ICT failure cascade effects
 - overall → more vulnerable to natural, accidental or malicious disruption
- SERSCIS approach: use agile SOA to offset these threats
 - adapt ICT components and networks to meet changing security needs
 - adapt ICT connections to prevent cascades and contain security threats

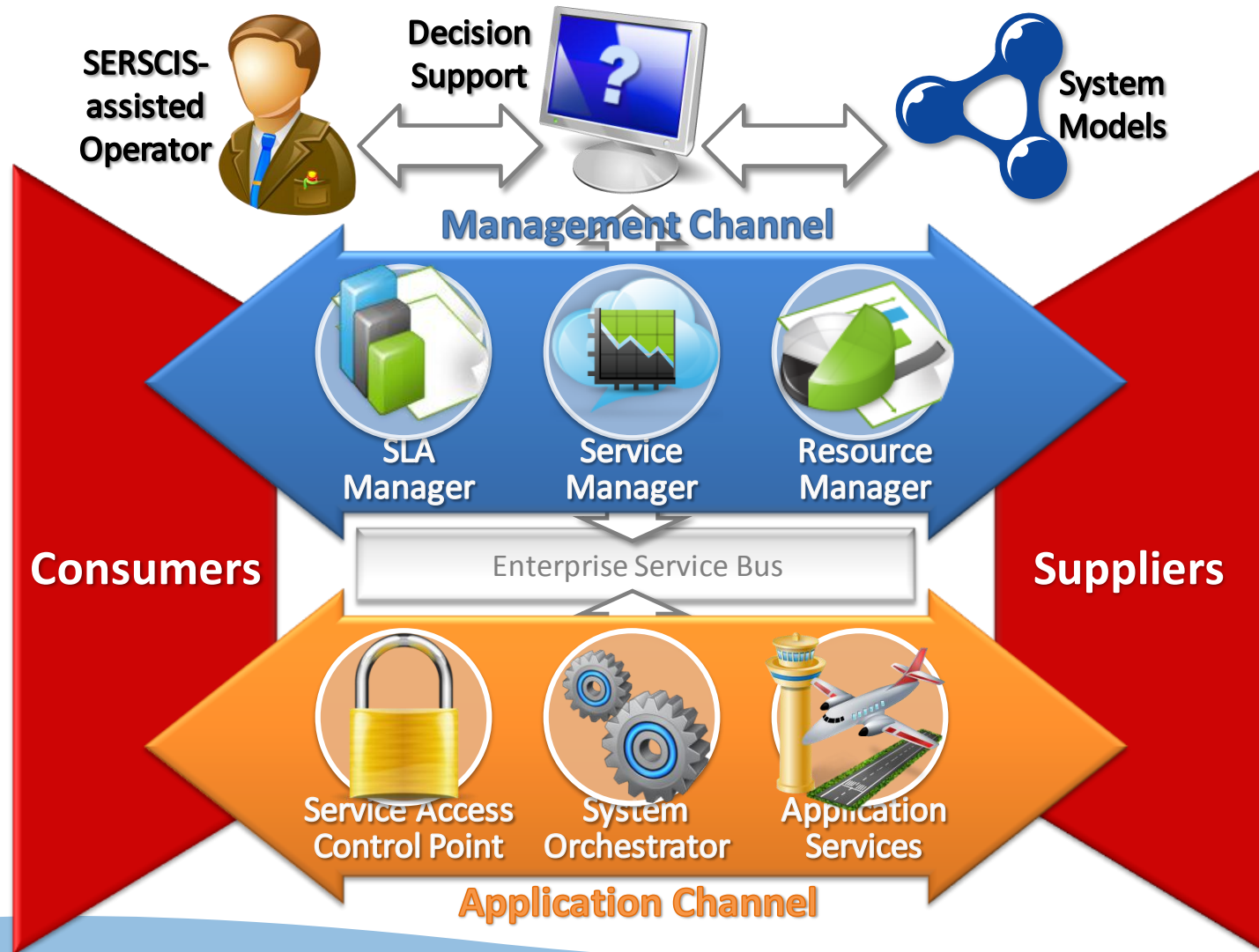
SERSCIS Objectives

- To exploit agile service oriented architectures and semantic models and reasoning technology
 - to dynamically compose and manage ICT inter-connections related to critical infrastructure
 - to monitor and manage ICT components and inter-connections against well-defined dependability criteria
 - to support human designers and operators of critical infrastructure ICT components
- To validate this approach in case studies from the air traffic sector
- To disseminate outputs and best practice and enable exploitation of project outputs results

Key Technologies

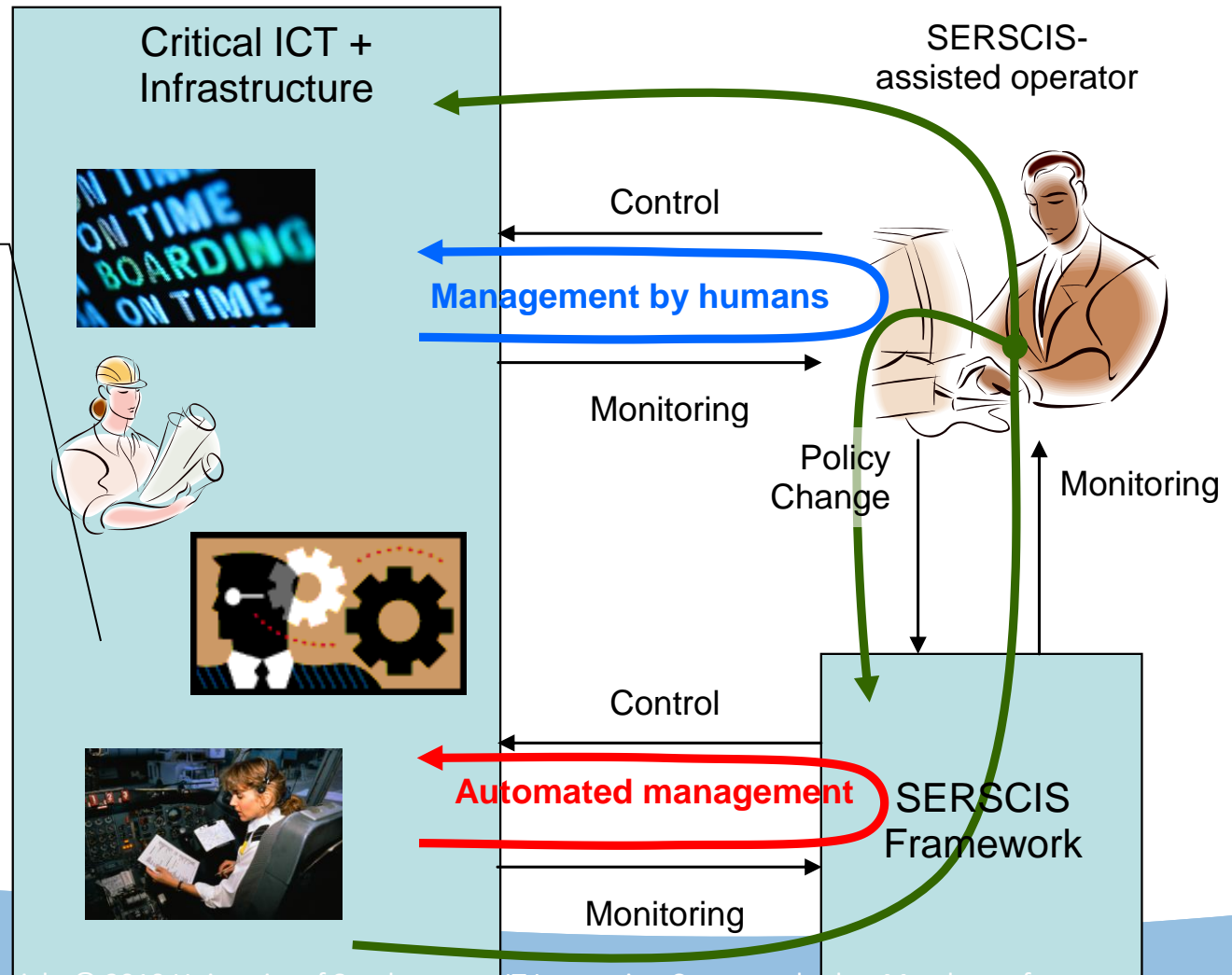
- Semantic models of critical infrastructure including ICT components
- Service governance models, metrics and methods to manage ICT services and security
- Run-time service composition to manage and alter ICT interdependencies
- Decision support facilities to support ICT service designers and operators
- Application emulators and testbed to support validation studies in air traffic / airport operation

Information Service Architecture



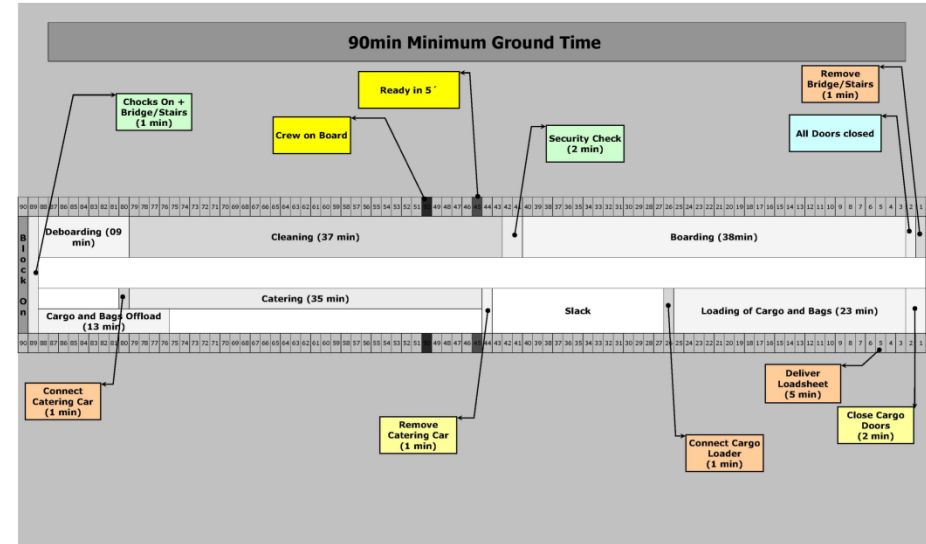
Run-Time Adaptation

Agile ICT interconnections to enable cooperation while managing risks



Validation Case Study

- Airport Collaborative Decision Making
 - focus on air-side aircraft turn-around
 - complex multi-actor workflow composition and management



- Quality of information is key
 - accuracy of service scheduling information
 - trustworthiness of information sources
- Source of aircraft ready times needed by ATM

Current Status (October 2010)

- Proof of concept SERSCIS framework complete
 - demonstrates architecture for combining SLA-based service management, composition and decision support
 - includes emulators services and actors for a simplified turn-around scenario
- Next steps: evaluate this framework as input to full technology implementation

Expected Outcomes

- Novel risk management capabilities based on agile, autonomic service oriented architecture
- Mechanisms to manage interdependency risks and cascading threats from interconnected ICT
- Greater awareness of risks in A-CDM especially from interdependency
- Analysis of requirements and application in other sectors